

CLAIMS

1. A process for preparing a high purity (meth)acryloyloxyalkyl isocyanate which process comprises:
subjecting a hydrolyzable chlorine containing
5 (meth)acryloyloxyalkyl isocyanate to mixing treatment with
an epoxy compound and an amine at a temperature of from
110 to 160°C to prepare a mixture; and
preparing a high purity (meth)acryloyloxyalkyl
isocyanate from the resulting mixture.

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2. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to claim 1 which process further comprises distilling the resulting mixture to isolate a (meth)acryloyloxyalkyl isocyanate,
15 after the mixing treatment.

3. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to claim 1 or 2 wherein the mixing treatment is carried out by adding a
20 polymerization inhibitor.

4. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to claim 3 which process further comprises carrying out distillation

with adding a polymerization inhibitor after the mixing treatment.

5. The process for preparing a high purity
5 (meth)acryloyloxyalkyl isocyanate according to claim 3 or
4 wherein the polymerization inhibitor is phenothiazine.

6. The process for preparing a high purity
(meth)acryloyloxyalkyl isocyanate according to claim 5
10 wherein the mixing treatment is carried out with adding
phenothiazine in an amount of from 0.1 to 20 % by mass
based on the raw material (meth)acryloyloxyalkyl
isocyanate and then the distillation is carried out with
adding phenothiazine in an amount of from 3 to 30 % by
15 mass based on the raw material (meth)acryloyloxyalkyl
isocyanate.

7. The process for preparing a high purity
(meth)acryloyloxyalkyl isocyanate according to claim 5 or
20 6 wherein the total amount of phenothiazine added is from
5 to 50 % by mass based on the raw material
(meth)acryloyloxyalkyl isocyanate.

8. The process for preparing a high purity

(meth)acryloyloxyalkyl isocyanate according to any one of claims 2 to 7 wherein the distillation is carried out at a temperature of not higher than 120°C.

5 9. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to any one of claims 1 to 8 wherein the amine is at least one selected from 2-alkyl-4-alkyl imidazole (provided that each alkyl group independently has a carbon number of 1 to 3),
10 trialkyl amine (provided that each alkyl group independently has a carbon number of 4 to 15) and a compound represented by the following formula [A]:
$$\text{H}_2\text{N} - (\text{CH}_2\text{CH}_2\text{NH})_n - \text{H} \dots [\text{A}]$$
wherein n is an integer of 2 or more.

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10. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to claim 9 wherein the amine is 2-ethyl-4-methylimidazole.

20 11. The process for preparing a high purity (meth)acryloyloxyalkyl isocyanate according to any one of claims 1 to 10 wherein the (meth)acryloyloxyalkyl isocyanate is (meth)acryloyloxyethyl isocyanate.